REMARKS/ARGUMENTS

Claims 1 to 23 are currently pending in this application. No claims have been amended with this response, no new matter has been added with this response.

Rejections Under 35 U.S.C. §103(a)

The Examiner rejected all of the pending claims as unpatentable under 35 U.S.C. §103(a) over Odagawa et al. (USPN 5,647,921) in view of either Libermann (USPN 4,791,979) or Pryor et al. (USPN 4,648,437) in further view of the teachings of Apfel (USPN 5,384,203). Applicants respectfully traverse this rejection.

As Applicants discussed in their previous response, the current invention is directed to an improved process for producing thick continuous foam sheet sections of amorphous metal. To accomplish this Applicants have modified conventional continuous sheet casting processes to include a foaming step and a stabilization step that carefully controls the temperature of the molten alloy between the melting temperature (T_m) and the crystallization cooling curve nose temperature (T_{NOSE}) so that the exact viscosity of the liquid alloy can be controlled prior to introduction of the alloy onto the sheet casting roller. The specification makes clear that it is in this tight "window" of temperatures that the materials will have the requisite viscosity properties. (See, Specification, page 8, line 30 to page 9, line 10.)

This runs counter to the prior art systems, such as those described by Odagawa et al., Liebermann, Pryor et al. and Apfel, which in Applicants' opinion do not "stabilize" the casting temperature in such a way as to ensure an acceptable viscosity, but rather focus entirely on how the mechanics of the casting process, such as roller speed, slit size, slit geometry, cooling rate, etc., may be modified to contend with the low viscosity

materials being used. Indeed, the Examiner has acknowledged that nowhere, do any of the cited prior art *patents* ever discuss a stabilization step.

The Examiner attempts to address this deficiency by newly citing to the U.S. patent publication to Johnson et al. (Office action, pages 2 to 3.) Although the Examiner does not specify which section of 35 USC §102 applies to the Johnson et al. reference, given that the current application has a priority date three years prior to the issue date of the Johnson et al. reference, it is assumed that the Johnson et al. reference is being cited under 35 USC §102(e). However, the Johnson et al. publication was assigned to LiquidMetal Technologies Inc. via an assignment recorded with the USPTO at reel 014121 frame 0162. In turn, the inventors of the current application were under an obligation to assign their rights to LiquidMetal Technologies, Inc. at the time the invention was made, and in fact, such an assignment has recently been recorded with the USPTO at reel/frame 022336/0453. Accordingly, both the cited art and the current application are both owned by the same entity, and the inventors of both applications were under an obligation to assign their rights to the same company at the time the inventions were made. The MPEP §706.02(l) makes it clear that for rejections under 35 USC §103(a):

> Subject matter developed by another person, which qualifies as prior art only under one or more of subsections (e), (f), and (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the claimed invention was made, owned by the same person or subject to an obligation of assignment to the same person.

In light of the co-ownership of the Johnson et al. publication and the current application, and in further light of the fact that the Johnson et al. publication can only be cited as prior art under 35 USC §102(e), the Johnson et al. publication is not properly

prior art to the instant application. Omitting the disclosure of the Johnson et al. publication means that, by the Examiner's own admission, none of remaining prior art (i.e., Odagawa et al. and Liebermann, Pryor et al. and/or Apfel) disclose, teach or even suggest a viscosity stabilization step, in which the temperature of the bulk metallic glass is stabilized within a temperature window defined by the melting temperature and "nose" temperature of the alloy, as required by the claims of the current application. Instead, all of the remaining prior art patents cited by the Examiner are focused on adjusting the roller speed and nozzle alignment/design to ensure appropriate casting of thin sheets of molten metals with low viscosities. These are precisely the type of conventional casting techniques that the current invention was designed to modify to allow for the casting of thick amorphous foam sheets.

Accordingly, Applicants submit that one of skill in the art, having read the combined teachings of Odagawa et al. and Liebermann, Pryor et al. and/or Apfel would have been motivated to attempt changes to the roller speed, nozzle width, nozzle gap, etc. to adjust for the low viscosity of the material. As such, Applicants believe the combination of the cited references would have reinforced the need to resort to such "mechanistic" manipulations, leading one of ordinary skill further away from Applicants own foam casting technique. In summary, given the process parameters repeatedly taught by the cited prior art, one of skill in the art would have had no motivation to modify those same references to produce the method claimed in the current application. Accordingly, Applicants submit that the claimed invention cannot be said to be obvious in light of the combination of Odagawa et al. and Liebermann, Pryor et al. and/or Apfel.

Conclusion

In view of the foregoing amendment and response, it is believed that the application is in condition for further examination. If any questions remain regarding the allowability of the application, Applicant would appreciate if the Examiner would advise the undersigned by telephone.

Respectfully submitted,

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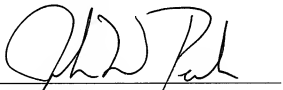

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